

Spring Balancers & Zero Gravity Balancers



Safety – Simply a Matter of Fact with CARL STAHL KROMER!

Perfect workplace ergonomics is an essential factor if you want to cut costs and increase productivity. Handling equipment such as our CARL STAHL KROMER spring balancers and zero gravity balancers makes your work processes not only smoother, but safer at the same time. Thanks to their excellent retracting and balancing performance based on an extremely safe and rugged construction, our balancers are simply ideal assembly and production assistants.

CARL STAHL KROMER spring balancers and zero gravity balancers have been designed, developed and manufactured according to the highest quality standards. Needless to say: all CARL STAHL KROMER products are routinely subjected to long-term tests, comply with DIN 15112 requirements and bear the “GS” mark symbolizing “tested for safety”. As documented by the CE-mark, relevant EC legislation is routinely observed as well, of course. And last but not least, you’ll find our products to be exemplars of the high quality customarily associated with the term “made in Germany”.

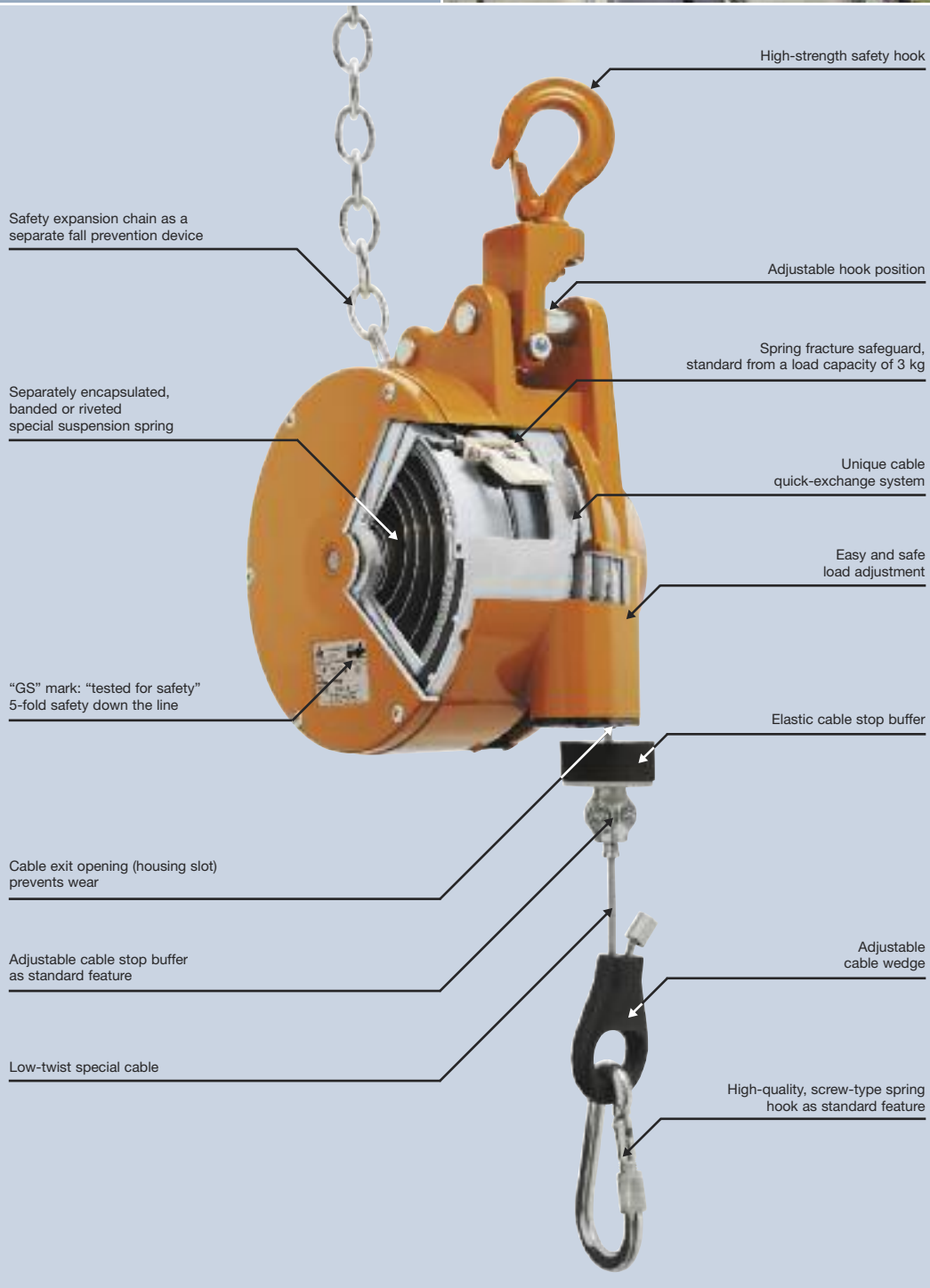
“Quality” is the focus of all our efforts and considerations. It is also a decisive factor for competitiveness in the global market.

Besides, our efforts are motivated by a desire to meet customer expectations, comply with legal requirements and live up to the good reputation our company has acquired over time. We also feel an obligation to protect the environment, preserve jobs and ensure the health and well-being of our employees while they perform their work.



Spring Balancers and Zero Gravity Balancers from Carl Stahl Kromer – the Advantages for you at a Glance:

- ▶ Smooth work processes
- ▶ Minimized operator fatigue
- ▶ Less wear for employees and machines
- ▶ Extremely high operating safety
- ▶ Very easy servicing
- ▶ Very high durability
- ▶ Fast procurement channels
- ▶ Continuous further development of our product range
- ▶ Local contact partners



Carl Stahl Kromer Spring Balancers and Zero Gravity Balancers in International Comparison

As indisputably proven by a 6-month comparison test conducted by the Esslingen University of Applied Sciences in Germany, Carl Stahl Kromer spring balancers and zero gravity balancers are global quality leaders. This long-term study was designed to compare the best-known products from all over the world across representative weight classes. Altogether, 15 parameters were included in the study, among them extension force diagram, useful life, spare part availability and delivery time. The result: Kromer products were second to none. No other manufacturer could rival Carl Stahl Kromer.

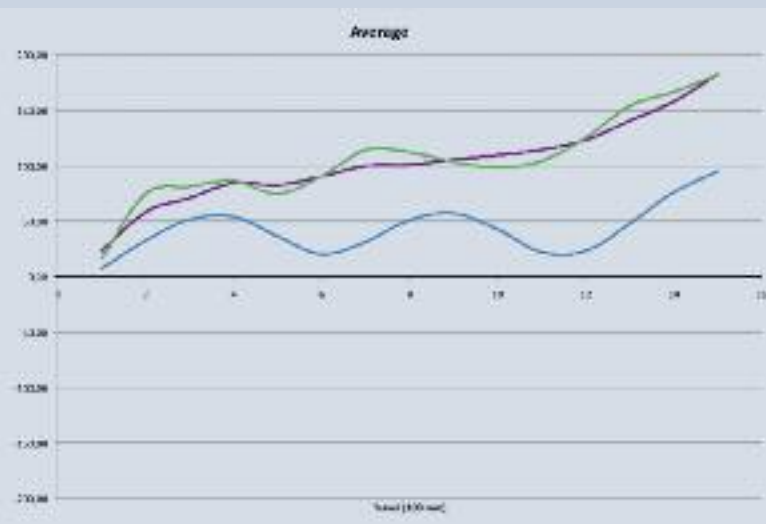
Apart from the spring balancer product group (so-called “retractors”), we also offer “zero gravity” balancers. Spring balancers are usually used to keep drills, screwdrivers or other tools with a maximum weight of between one and 14 kg ready for use within easy reach for production lane workers. Zero gravity balancers

are designed to keep the tool almost weightlessly suspended in the chosen position, thus guaranteeing precision, repeat accuracy (reproducibility) and quality along with superior ergonomics (see page 6).

The most convincing result was rendered by the endurance test: Whereas 60 percent of all tested products were not even able to provide zero-failure performance for 100,000 lifts at a cable travel of 1.5 m, the respective Kromer balancer achieved no less than 540,000 lifts without any losses in precision or basic functionality. The best competition product only managed 120,000 lifts in this fatigue test, thus finishing far behind Carl Stahl Kromer.

Carl Stahl Kromer’s extensive experience in balancer design and manufacture – in fact, more than 75 years – means absolute repeat accuracy and precision for users, with top availability and superior service life guaranteed at the same time – qualities that are indispensable for state-of-the-art workplaces.

Balancing performance of competition products

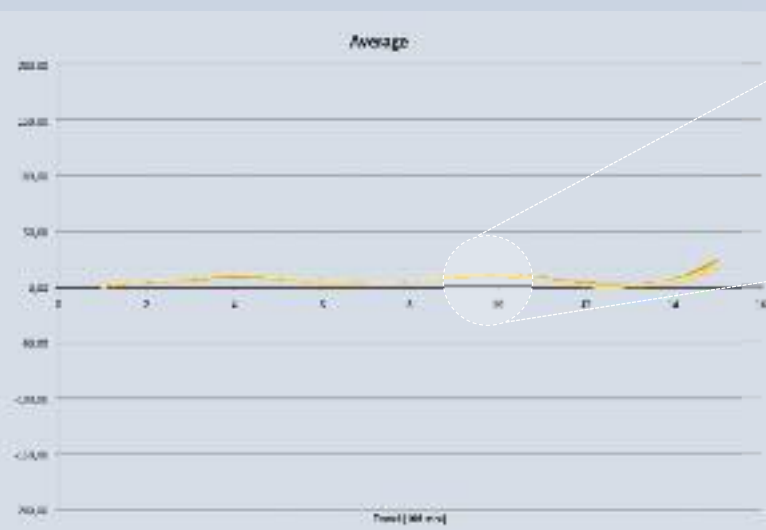


- Product 3
- Product 2
- Product 1

ideal line = true weight compensation

Force diagram: measurements across a cable extension range of 1.5 m
Load setting: 833 N

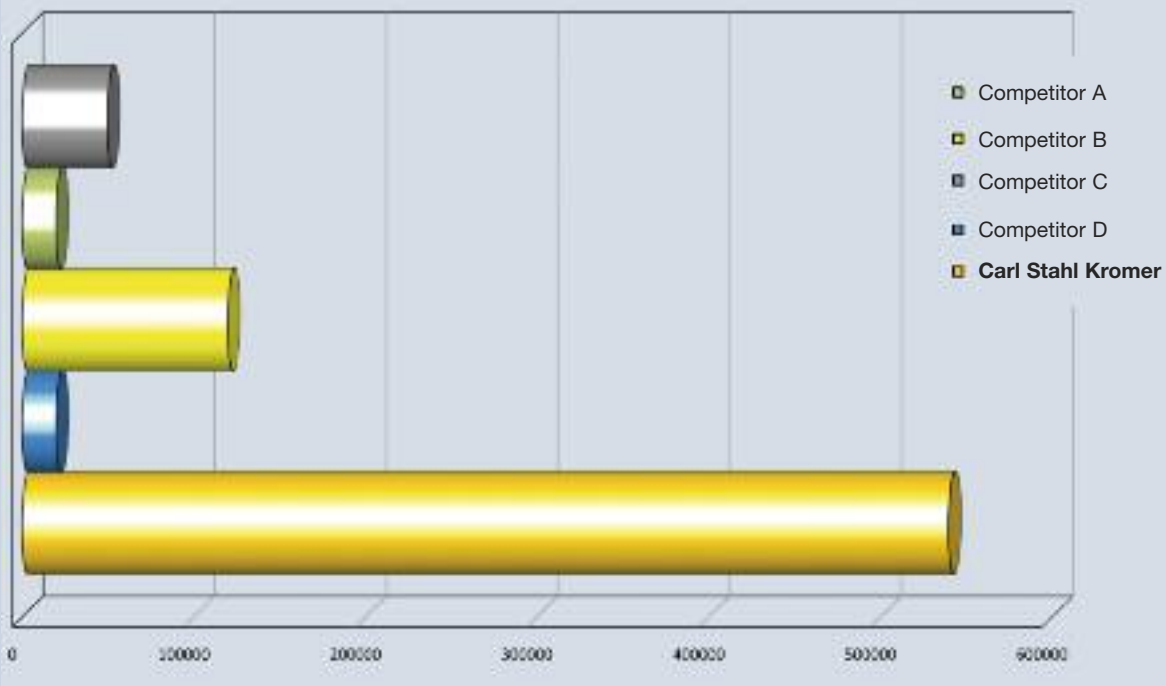
Balancing performance of Carl Stahl Kromer products



ideal line = true weight compensation

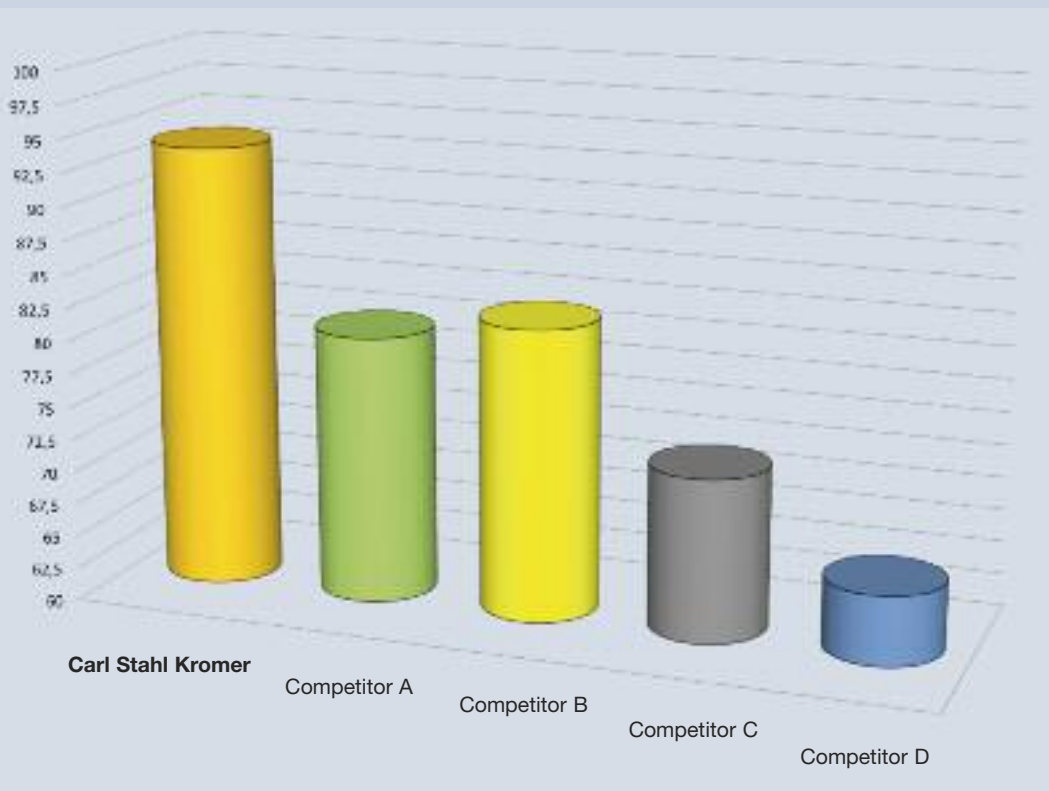
Force diagram: measurements across a cable extension range of 1.5 m
Load setting: 833 N

Life to Failure



Life test with a cable travel of 1.5 m
Load setting: 833 N

Conclusion / Overall Assessment



Spring Balancers (Retractors)

CARL STAHL KROMER spring balancers are designed so that the retracting force increases with increasing cable extension. Thus, the working load (tool) is automatically retracted to its initial position after use, allowing the workspace to be used for other tools or devices. Precise operation is assured as the retraction force increases gradually and very smoothly



Zero Gravity Balancers

CARL STAHL KROMER zero gravity balancers are characterized by the conical shape of their cable drum, which guarantees an almost constant retraction force independent of the extension of the load-carrying cable. As a result, the working load remains suspended in the same position after use. Besides, no increasing retraction force acts upon the operator's hand – a significant advantage particularly for delicate, high-precision tasks. Therefore, using a CARL STAHL KROMER zero gravity balancer minimizes fatigue and facilitates your work over extended periods of time as well.



Ratchet Lock

The ratchet lock is an automatic arresting mechanism that locks the retracting cable in predetermined positions. It is automatically activated if the working load is moved back slowly. If pushed back fast, the mechanism remains inactive. This represents a significant ergonomic improvement for some applications, for example if it is impractical to return the suspended tool fully to its initial position between jobs or working steps. The ratchet lock feature is available for various spring balancers and zero gravity balancers. Please refer to the corresponding product descriptions.



Patented Freewheel Device

Our patented freewheel feature provides protection against operating errors in our zero gravity balancer models 7241, 7248, 7251 and 7261. By making over-rotation in the "minus" direction ineffective, with no impact on the spring, this device effectively prevents spring fracture caused inadvertently when releasing the spring. At the same time, this protection mechanism increases the balancer's life significantly. The new device comes as a standard feature in all of our balancer models 7241, 7248, 7251 and 7261.



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Type 5200 Light-Duty Spring Balancer

This spring balancer, designed for loads infinitely adjustable between 0.5 kg and 2.0 kg, is recommended for tasks where a tool needs to be kept ready in the 3rd dimension at a predetermined position. With a cable travel of 2.0 m, this model provides sufficient range to allow the suspended load to be retracted to a defined position over larger distances as well.

The use of special plastics for the housing and the cable drum, together with a selected special material for the spring, make this balancer model an ideal workplace assistant.

Conclusion:

An easy-to-use and reliable retractor that is very popular among users.



Type 5200 Light-Duty Spring Balancer

Design:

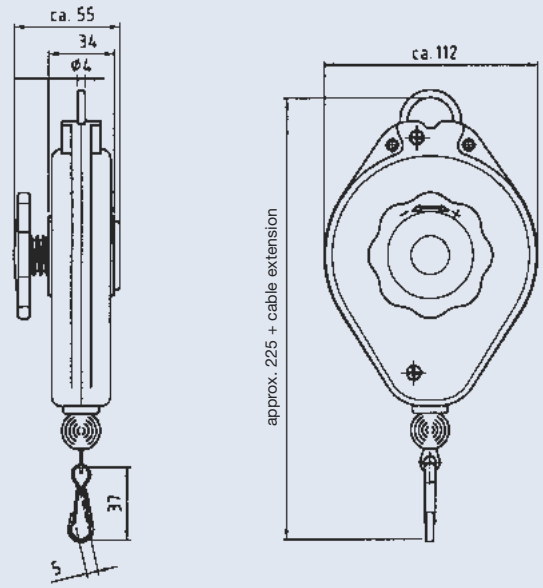
- Housing: Impact- and abrasion-resistant plastic
- Cable drum: Abrasion-resistant plastic
- Cable: High-strength polyamide cable with elastic cable stop buffer and light-duty spring hook for load suspension
- Spring: High-strength special suspension spring with easy load setting via handwheel

Safety features:

- ▶ Fully assembled unit
- ▶ Rigid housing
- ▶ Insulated suspension

Working ranges:

- Cable extension: 2.0 m



ID No.	Load Range (kg)	Cable Travel (m)	Dead Weight (kg)
5200 0000 01	0.5–1.2	2.0	0.6
5200 0000 02	1.0–2.0	2.0	0.6



Type 7200 Light-Duty Spring Balancer

This balancer model is optimal for all light-weight, hand-operated tools that need to be kept ready in the 3rd dimension at a predetermined position. With a maximum cable travel of 1.6 m, this model provides ample working range for any application. Thanks to the optimized, user-friendly load setting procedure, the load-carrying capacity of these retractors can be adjusted very easily to working load weights (from 0.0 to 2.5 kg, depending on the model used). The use of special plastics for the housing and the cable drum, together with a selected special material for the spring, make this balancer model an ideal workplace assistant.

Conclusion:

Thanks to its high durability and quality, this model can be recommended as a fully convincing assistant for any workplace.



Type 7200 Light-Duty Spring Balancer

Design:

- Housing:** Impact- and abrasion-resistant plastic, reddish orange
- Cable drum:** Abrasion-resistant plastic
- Cable:** High-strength steel cable with elastic cable stop buffer and light-duty spring hook for load suspension
- Spring:** High-strength special suspension spring, easy load setting
- Special features:** Longer cable available on request
Version with spiral hose available as well (see Air Hose Balancers, p. 28 ff)

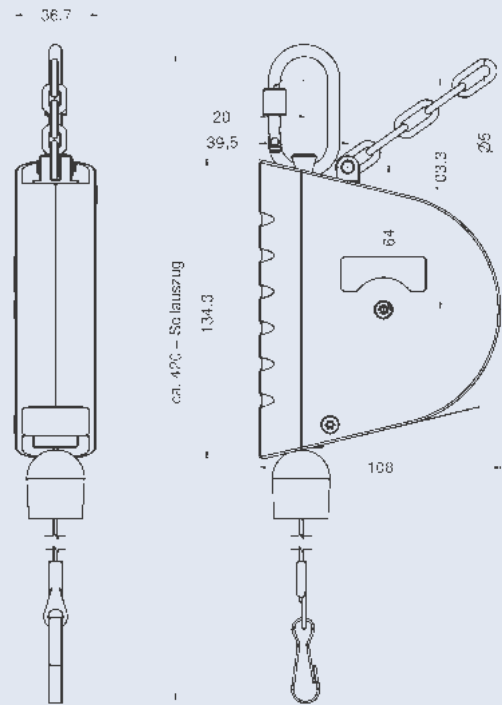
Safety features:

- ▶ Tested for safety ("GS" label)
- ▶ Fully assembled unit
- ▶ Rigid housing
- ▶ Insulated suspension
- ▶ With safety chain as a standard feature



Working ranges:

- Cable extension:** 1.6 m
- Cable stop buffer:** continuously adjustable



ID No.	Load Range (kg)	Cable Travel (m)	Dead Weight (kg)
7200 0800 00	0.0 - 0.5	1.6	0.4
7200 0800 01	0.3 - 1.5	1.6	0.5
7200 0800 02	1.2 - 2.5	1.6	0.6



Types 7211 and 7212 Light-Duty Spring Balancers Optionally with Ratchet Lock

This retractor provides perfect support when working with small hand-operated tools of any kind, such as electrical or pneumatic tools, stitchers, nailers, manual scanners or labeling machines, measuring equipment, etc. As load setting has been improved once again, adjustment to the desired load range is very easy, with optimized load graduations. An ample cable extension range of 2.5 m is provided as well. The rugged design of the 7211 type series means dependable and low-wear operation, with a long life being guaranteed even at a high cable extension rate.

The 7212 version comes with a ratchet lock in addition. This automatic arresting mechanism allows the load to be suspended in a predefined position if moved back at a lower speed.

For both versions, special plastics have been used for the housing and the cable drum, along with selected special materials for the spring. The result is two reliable workplace assistants. A fall prevention device (not included in normal delivery) can be optionally integrated as an additional safety component via a bore hole provided in the housing for this purpose.

Conclusion:

The optimized solution for small tools of all kinds.



Types 7211 and 7212
Light-Duty Spring Balancers
 Optionally with Ratchet Lock

Design:

- Housing: Impact- and abrasion-resistant plastic, reddish orange
- Cable drum: Abrasion-resistant plastic
- Cable: High-strength steel cable with elastic cable stop buffer and spring hook for load suspension
- Spring: High-strength special suspension spring in riveted design, easy load setting
- Special features: Version 7212 with ratchet lock
 Longer cable available on request
 Version with spiral hose available as well (see Air Hose Balancers, p. 32 ff)

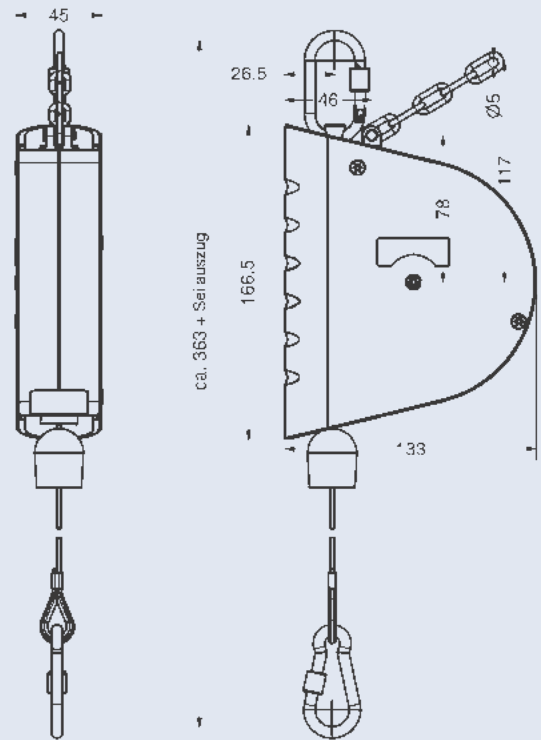
Safety features:

- ▶ Tested for safety ("GS" label)
- ▶ Fully assembled unit
- ▶ Rigid housing
- ▶ Insulated suspension
- ▶ With safety chain as a standard feature



Working ranges:

- Cable extension: 2.5 m
- Cable stop buffer: continuously adjustable



ID No. w/o Ratchet Lock	ID No. with Ratchet Lock	Load Range (kg)	Cable Travel (m)	Dead Weight w/o Ratchet Lock (kg)	Dead Weight with Ratchet Lock (kg)
7211 0800 01	7212 0800 01	0.5 - 2.0	2.5	0.8	0.9
7211 0800 02	7212 0800 02	1.5 - 3.0	2.5	0.8	0.9



Types 7221 and 7222 Medium-Duty Spring Balancers Optionally with Ratchet Lock

The 7221 type series has been designed for real continuous operation. It is characterized by a very good, smooth retracting performance and a very large cable extension range of 3.0 m – features that make it useful for all fields of application. With loads ranging from 2.0 kg to 14.0 kg, these retractors easily meet the requirements posed by rough operating conditions.

Thanks to their quality and safety, these balancers have stood the test, particularly with regard to the suspension of hand-operated tools on assembly lines, but they are just as valuable for single applications or for installation in machines. Parts subject to wear – such as the suspension spring and the cable – are easy to replace and available as spare parts. Besides, this type series comes with a spring fracture safeguard as a standard feature that reliably prevents the suspended load from crashing down if the spring breaks. Another standard feature is the safety chain – a fall prevention device that also significantly increases occupational safety.

This type series has been optimized for easier load setting, now done with a continuously rotatable adjusting screw. At the same time, these retractors incorporate a device that prevents inadvertent wrong operation (over-rotation) during load setting, thus facilitating this process a great deal.

Just like its smaller counterpart, the 7212 model, the 7222 features a ratchet lock as well. This automatic arresting mechanism allows the load to be suspended in a predetermined position if returned at a lower speed.

Conclusion:

These reliable retractors designed for continuous duty assure safe and precise operation in all fields of application.



Types 7221 and 7222
Medium-Duty Spring Balancers
Optionally with Ratchet Lock

Design:

- Suspension: Rotary screw-type spring hook
- Housing: Impact- and abrasion-resistant plastic, reddish orange
- Cable drum: Abrasion-resistant plastic
- Cable: High-strength steel cable with elastic cable stop buffer and screw-type spring hook for load suspension. The cable can be continuously adjusted lengthwise via a cable wedge. A longer cable is available on request.
- Spring: High-strength, banded special suspension spring, load continuously adjustable
- Special features: Version 7222 with ratchet lock
 Longer cable available on request
 Version with spiral hose available as well (see Air Hose Balancers, p. 32 ff)

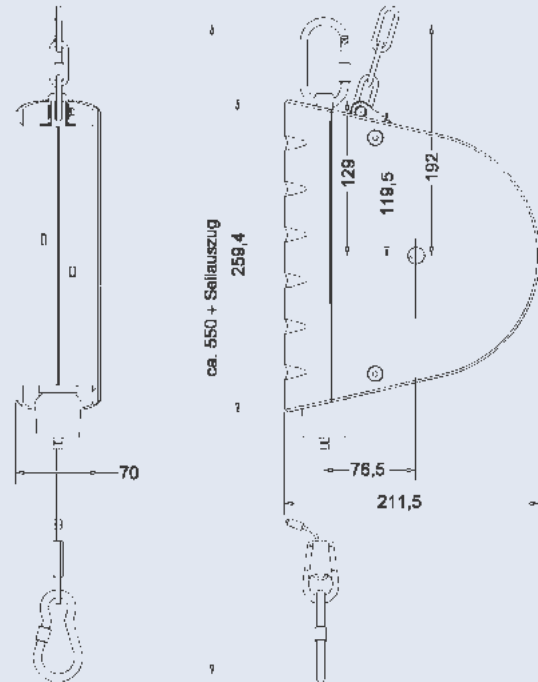
Safety features:

- ▶ Tested for safety ("GS" label)
- ▶ Very rigid housing
- ▶ Screw-type spring hook as insulated suspension, swiveling and rotatable
- ▶ Ferrule for securing the cable end
- ▶ Spring fracture safeguard and safety chain as standard features
- ▶ Cable drum lockable



Working ranges:

- Cable extension: 3.0 m
- Cable stop buffer: continuously adjustable



ID No. w/o Ratchet Lock	ID No. with Ratchet Lock	Load Range (kg)	Cable Travel (m)	Dead Weight w/o Ratchet Lock (kg)	Dead Weight with Ratchet Lock (kg)
7221 0800 01	7222 0800 01	2.0 - 5.0	3.0	3.3	3.5
7221 0800 02	7222 0800 02	4.0 - 8.0	3.0	3.7	3.8
7221 0800 03	7222 0800 03	7.0 - 10.0	3.0	3.7	3.8
7221 0800 04	7222 0800 04	10.0 - 14.0	3.0	3.9	4.0



Type 7228 Light-Duty Zero Gravity Balancer

The zero gravity balancer type 7228 is the perfect solution for high-precision tasks. With a lift or cable extension range of 1.6 m, the working space on assembly and production facilities is very well taken care of. This model again provides for very easy replacement of parts subject to wear, thus ensuring a consistently high level of user satisfaction. Besides, the load setting procedure has been optimized to facilitate this process significantly for users.

Moreover, this zero gravity balancer offers a safety chain as a standard feature and fall prevention device even with the smallest version in the load range of just 0.4–1.2 kg. All models with a load capacity of 3.0 kg or more additionally incorporate an effective spring fracture safeguard that reliably prevents the load from crashing down if the spring breaks. These are safety features that enhance occupational safety significantly.

Conclusion:

The 7228 model is a well-thought-out device for almost any application in the fields of production and assembly, as well as for integration into machines.



Type 7228 Light-Duty Zero Gravity Balancer

Design:

Suspension:	Rotary screw-type spring hook
Housing:	Impact- and abrasion-resistant plastic, reddish orange
Housing cover:	Sheet steel, varnished
Cable drum:	High-strength, abrasion-resistant plastic
Cable:	High-strength steel cable with elastic cable stop buffer and screw-type spring hook for load suspension. The cable is continuously adjustable in length via a cable wedge. The lift or working range can be continuously adjusted (reduced) in addition via a cable clamp.
Feder:	High-strength, riveted special suspension spring, simplified load adjustment
Besonderheit:	Longer cable available on request.

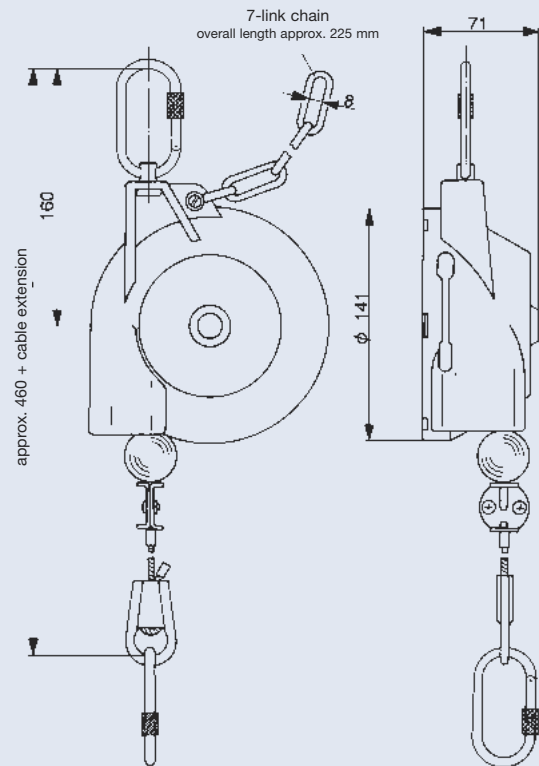
Safety features:

- ▶ Tested for safety ("GS" label)
- ▶ Very rigid and highly impact-resistant housing
- ▶ Screw-type spring hook for insulated suspension, swiveling and rotatable
- ▶ Screw-type spring hook for load suspension
- ▶ Safety chain as standard fall protection feature
- ▶ Spring fracture safeguard as standard feature in models with a load capacity of 3.0 kg or higher
- ▶ Cable drum lockable



Working ranges:

Cable extension:	1.6 m
Cable stop buffer:	continuously adjustable



ID No.	Load Range (kg)	Cable Travel (m)	Dead Weight (kg)
7228 0000 01	0.4 - 1.2	1.6	1.3
7228 0000 02	1.2 - 2.6	1.6	1.4
7228 0000 03	2.6 - 3.8	1.6	1.5
7228 0000 04	3.8 - 5.2	1.6	1.5
7228 0000 05	5.2 - 6.5	1.6	1.5

Types 7230 and 7231 Medium-Duty Zero Gravity Balancer Optionally with Ratchet Lock

As a result of optimization processes continued over many years, the balancer model 7230 has been ideally adapted to its specific tasks and environments. In spite of its light-weight design, it easily masters even rough jobs involving a high cable extension rate in daily operation. Whether it is used for simple weight compensation or for extreme applications such as retaining robot hose packages, the 7230 type series meets any requirements encountered within its load range. A cable extension of 2.0 m enables users to cover larger working areas as well. Load setting is done conveniently via an endless screw allowing continuous adjustment.

These balancer models come with a whole range of safety components as standard features that include a fall prevention device and a spring fracture safeguard in addition to a safety suspension and a screw-type spring hook for load suspension. As the cable is continuously adjustable in length and the working range can also be infinitely adjusted (reduced) via the cable clamp, the unit can be easily and optimally adapted to specific working needs.

With the 7231 version, a ratchet lock is included that allows users to stop the cable retraction process automatically in a predetermined position if the suspended load is returned slowly. All other features remain unchanged.

Conclusion:

A proven and time-tested device with great technical dependability – excellently suited for handling light to medium loads.



Types 7230 and 7231
Medium-Duty Zero Gravity Balancer
 Optionally with Ratchet Lock

Design:

- Suspension:** Safety hook, freely rotatable and swiveling
- Housing:** Fully impact- and abrasion-resistant plastic, reddish orange
- Cable drum:** Highly abrasion-resistant, high-strength plastic
- Cable:** High-strength steel cable with elastic cable stop buffer and screw-type spring hook for load suspension. The cable is continuously adjustable lengthwise via a cable wedge. The lift or working range can be continuously adjusted (reduced) in addition via a cable clamp.
- Spring:** High-strength, riveted special suspension spring, with continuous load adjustment via endless screw
- Special features:** Longer cable available on request.
 Version 7231 with ratchet lock.

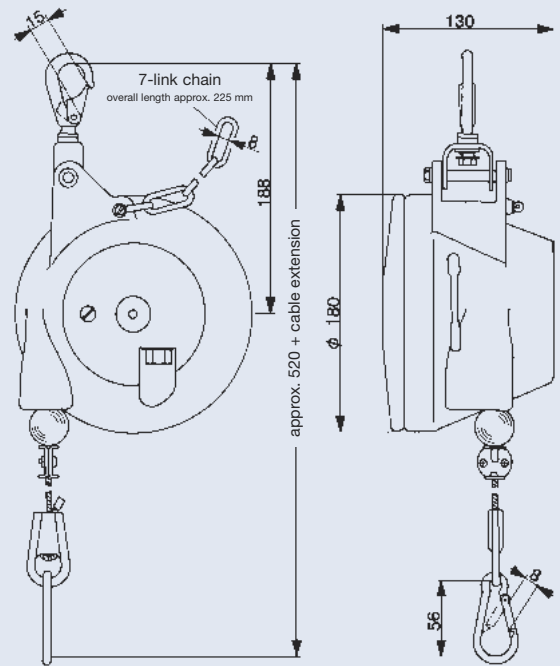
Safety features:



- ▶ Tested for safety ("GS" label)
- ▶ Very rigid and highly impact-resistant housing
- ▶ Safety hook for insulated suspension, freely rotatable and swiveling
- ▶ Screw-type spring hook for load suspension
- ▶ Safety chain as standard fall protection feature
- ▶ Spring fracture safeguard as standard feature for all load ranges, integrated drum lock

Working ranges:

- Cable extension:** 2.0 m
- Cable stop buffer:** continuously adjustable



ID No. w/o Ratchet Lock	ID No. with Ratchet Lock	Load Range (kg)	Cable Travel (m)	Dead Weight w/o Ratchet Lock (kg)	Dead Weight with Ratchet Lock (kg)
7230 0000 01	7231 0000 01	3.0 - 5.0	2.0	2.9	3.1
7230 0000 02	7231 0000 02	4.5 - 7.0	2.0	3.1	3.3
7230 0000 03	7231 0000 03	6.0 - 10.0	2.0	3.2	3.4
7230 0000 04	7231 0000 04	9.0 - 14.0	2.0	3.4	3.6
7230 0000 05	7231 0000 05	13.0 - 17.0	2.0	3.6	3.8
7230 0000 06	7231 0000 06	16.0 - 21.0	2.0	3.8	4.0

Types 7235 and 7236 Medium-Duty Zero Gravity Balancer Optionally with Ratchet Lock

The zero-gravity balancer model 7235 is an advanced version of the 7230 type series, designed for higher load ranges. Perfectly adapted to its specific tasks and environments through optimization processes carried out over many years, the 7235 model also masters even rough jobs involving a high cable extension rate in daily operation. Whether it is used for simple counterbalancing of the weight of devices or for keeping fairly heavy tools such as riveting tongs or multi-purpose screwdrivers accurately in place for use, the 7235 type series meets any requirements encountered within its load range.

A cable extension of 2.0 m enables users to cover larger working areas as well. Load setting is done conveniently via an endless screw allowing continuous adjustment. As all parts subject to wear can be easily replaced, a very high level of user satisfaction is assured in the long term.

These balancers come with a whole range of safety components as standard features that include a fall prevention device and a spring fracture safeguard in addition to a safety suspension and a screw-type spring hook for load suspension. As the working range can be adjusted/reduced via the cable clamp, these units can be optimally adapted to the needs of specific working environments.

With the 7236 version, this type series also offers a ratchet lock allowing users to stop the cable retraction process automatically in a predetermined position if the suspended load is returned slowly.

Conclusion:

A proven and time-tested device, cost-efficient and technically reliable – ideal for handling medium loads.



Types 7235 and 7236
Medium-Duty Zero Gravity Balancer
 Optionally with Ratchet Lock

Design:

- Suspension: Screw-type safety hook, freely rotatable and swiveling
- Housing: High-strength, sand-cast aluminum
- Cable drum: High-strength, sand-cast aluminum
- Cable: High-strength steel cable with elastic cable stop buffer and screw-type spring hook for load suspension. The lift or working range can be continuously adjusted (reduced) via a cable clamp.
- Spring: High-strength, riveted special suspension spring, with continuous load adjustment via endless screw
- Special features: Longer cable available on request. Version 7236 with ratchet lock.

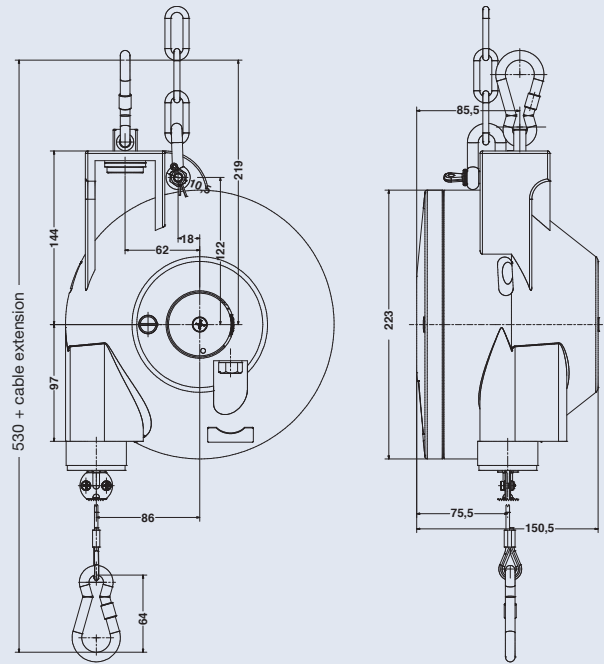
Safety features:



- ▶ Tested for safety ("GS" label)
- ▶ Very rigid and highly impact-resistant housing
- ▶ Screw-type safety hook, freely rotatable and swiveling
- ▶ Screw-type spring hook for load suspension
- ▶ Safety chain as standard fall protection device
- ▶ Spring fracture safeguard as standard feature for all load ranges, integrated drum lock

Working ranges:

- Cable extension: 2.0 m
- Cable stop buffer: continuously adjustable



ID No. w/o Ratchet Lock	ID No. with Ratchet Lock	Load Range (kg)	Cable Travel (m)	Dead Weight w/o Ratchet Lock (kg)	Dead Weight with Ratchet Lock (kg)
7235 0000 01	7236 0000 01	15.0 - 25.0	2.0	7.80	8.90
7235 0000 02	7236 0000 02	25.0 - 35.0	2.0	8.90	10.00
7235 0000 03	7236 0000 03	35.0 - 45.0	2.0	9.50	10.60
7235 0000 04	7236 0000 04	45.0 - 55.0	2.0	9.75	10.85



Type 7241
Heavy-duty Zero Gravity Balancer
Optionally with Manual Drum Lock

This is a balancer of uncompromising performance in terms of quality and safety. Therefore, it is not surprising that this model has become the industry standard in many sectors. Due to continuing and systematic implementation of relevant safety requirements, this balancer combines high operational safety and durability with very easy and safe servicing.

As a result of practical experience gained over many years, the operating ranges of this balancer are optimally structured. Thanks to the modular design and the fully encapsulated suspension spring, it is possible to change the load range in no time by simply exchanging the suspension spring cassette. Load adjustment is done conveniently via an infinitely adjustable endless screw. What's more, the patented freewheel device integrated as a standard feature prevents inadvertent wrong operation during load setting.

A cable travel of 2.0 m makes this balancer suitable for larger working areas as well. Besides, the cable length can be continuously adapted to specific applications via the cable wedge, while the cable clamp allows users to adjust the lift or working range to individual requirements. An integrated cable extension limit stop prevents cable mount overload. The cable drum comes fitted with two ball bearings for very smooth and precise operation.

Needless to say, the 7241 model has a freely rotatable and swiveling suspension. The suspension hook can be optimally adjusted to its center of gravity for low-wear operation.

Conclusion:

A well-thought-out device for almost any application in production or assembly, also suited for integration into machines. Its durability and precision set the global balancer standard.



Type 7241
Heavy-Duty Zero Gravity Balancer
Optionally with Manual Drum Lock

Design:

- Suspension: Safety hook, freely rotatable and swiveling; positionable
- Housing: High-strength, die-cast aluminum
- Housing cover: High-strength, die-cast aluminum
- Cable drum: High-strength, die-cast aluminum
- Cable: High-strength steel cable with elastic cable stop buffer and screw-type spring hook for load suspension. The cable is continuously adjustable in length via a cable wedge. The lift or working range can be continuously adjusted (reduced) in addition via a cable clamp.
- Spring: High-strength special suspension spring, encapsulated and riveted
- Type of bearing: Ball bearings, closed on both sides
- Special features: Longer cable available on request. Version with manual drum lock available as well.

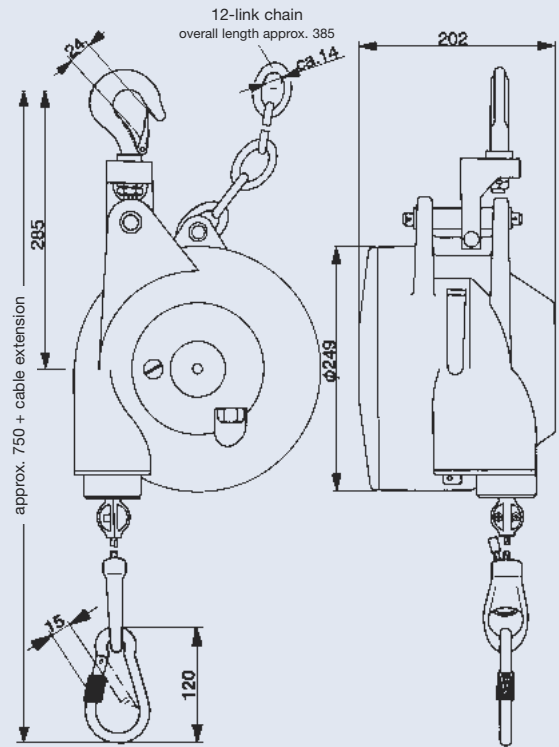
Safety features:



- ▶ Tested for safety ("GS" label)
- ▶ Very rigid and highly impact-resistant aluminum housing
- ▶ Safety hook, freely rotatable and swiveling
- ▶ Overload protection due to cable extension limit stop
- ▶ Screw-type spring hook for load suspension
- ▶ Safety expansion chain as standard fall protection device
- ▶ Spring fracture safeguard as standard feature for all load ranges
- ▶ Integrated drum lock
- ▶ Ferrule for securing cable end (included in normal delivery)
- ▶ Freewheel device for protection against handling errors

Working ranges:

- Cable extension: 2.0 m
- Cable stop buffer: continuously adjustable



ID No. w/o Drum Lock	ID no. with Drum Lock	Load Range (kg)	Cable Travel (m)	Dead Weight w/o Drum Lock (kg)	Dead Weight with Drum Lock (kg)
7241 0800 01	7241 0800 81	12.0 - 20.0	2.0	14.8	15.0
7241 0800 02	7241 0800 82	20.0 - 30.0	2.0	15.2	15.4
7241 0800 03	7241 0800 83	30.0 - 45.0	2.0	16.9	17.1
7241 0800 04	7241 0800 84	45.0 - 60.0	2.0	17.3	17.5
7241 0800 05	7241 0800 85	60.0 - 75.0	2.0	18.7	18.9
7241 0800 06	7241 0800 86	75.0 - 90.0	2.0	19.7	19.9
7241 0800 07	7241 0800 87	90.0 - 100.0	2.0	19.9	21.1



Type 7248 Heavy-Duty, High-Safety Zero Gravity Balancer

The balancer model 7248 represents a logical and systematic upgrade of its 7241 counterpart. Like the latter, it is a balancer of uncompromising performance in terms of the highest quality and safety. As a result of continuing, logical implementation of relevant safety requirements, this model combines extremely high operational safety and durability with very easy and safe servicing.

The most important feature of this balancer is the second suspension cable that has been integrated for the best possible protection in the event of cable breakage. Should one cable fail, the working load is immediately carried by the second cable. This reliably prevents injuries and minimizes further damage. The load ranges are fully identical with those of the 7241 model and, as such, optimally structured. Needless to say, the suspension spring is fully encapsulated in this model as well.

Thanks to the modular design, it is possible to change the load range quickly by simply exchanging the suspension spring. Load adjustment is done conveniently via an infinitely adjustable endless screw. What's more, the patented freewheel device integrated as standard prevents maloperation during load setting.

A cable travel of 2.0 m makes this balancer suitable also for larger working areas. Besides, the cable length can be continuously adapted to specific applications via the cable wedges, while the cable clamp allows users to adjust the working range to individual needs. The cable drum is also equipped with two ball bearings, of course, and as such designed for continuous operation.

The suspension is freely rotatable and swiveling and the hook can be optimally adjusted to its center of gravity for low-wear operation.

Conclusion:

As this balancer model satisfies the highest safety requirements, it is simply ideal for any conceivable application in production or assembly, as well as for integration into machines.



Type 7248 Heavy-Duty, High-Safety Zero Gravity Balancer

Design:

Suspension:	Safety hook, freely rotatable and swiveling; positionable
Housing:	High-strength, die-cast aluminum
Housing cover:	High-strength, die-cast aluminum
Cable drum:	High-strength, sand-cast aluminum
Cable:	High-strength steel cables with elastic cable stop buffer and screw-type spring hook for load suspension. The lift or working range can be continuously adjustable (reduced) in addition via a cable clamp.
Spring:	High-strength special suspension spring, encapsulated and riveted
Type of bearing:	Ball bearings, closed on both sides
Special feature:	Longer cables available on request.

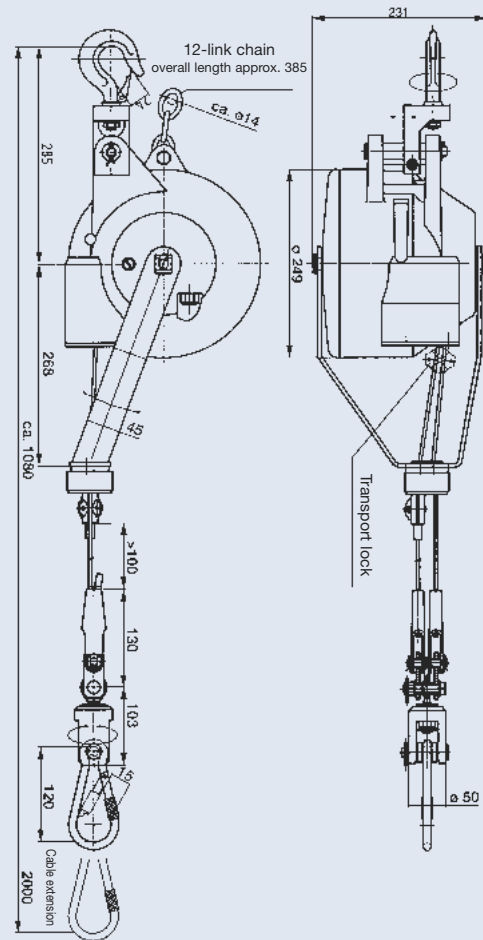
Safety features:

- ▶ Tested for safety ("GS" label)
- ▶ Dual cable design
- ▶ Very rigid and highly impact-resistant aluminum housing
- ▶ Safety hook, freely rotatable and swiveling
- ▶ Screw-type spring hook for load suspension
- ▶ Safety expansion chain as standard fall protection feature
- ▶ Spring fracture safeguard as standard feature for all load ranges
- ▶ Integrated drum lock
- ▶ Ferrules for securing the cable ends (included in normal delivery)
- ▶ Freewheel device for protection against handling errors



Working ranges:

Cable extension:	2.0 m
Cable stop buffer:	continuously adjustable



ID No. w/o Ratchet Lock	Load Range (kg)	Cable Travel (m)	Dead Weight (kg)
7248 0800 01	12.0 - 20.0	2.0	17.1
7248 0800 02	20.0 - 30.0	2.0	17.5
7248 0800 03	30.0 - 45.0	2.0	19.2
7248 0800 04	45.0 - 60.0	2.0	19.6
7248 0800 05	60.0 - 75.0	2.0	21.0
7248 0800 06	75.0 - 90.0	2.0	22.0
7248 0800 07	90.0 - 100.0	2.0	23.2

Type 7251 Heavy-Duty Zero Gravity Balancer

Just like the 7241 model, the 7251 is a zero gravity balancer of uncompromising performance in terms of quality and safety. Therefore, it is not surprising that this type series has also set standards in many branches of industry. Thanks to continuing and systematic implementation of relevant safety requirements, this balancer combines high operational safety and durability with very easy and safe servicing.

The operating ranges are optimally structured as a result of practical experience gained over many years. Due to the modular design and the fully encapsulated suspension spring, it is possible to change the load range quickly by simply exchanging the suspension spring cassette. Load adjustment is done conveniently via a continuously adjustable endless screw. What's more, the patented freewheel device integrated as standard prevents inadvertent wrong operation during load setting.

With its extensive cable travel of 3.0 m, this balancer allows you to cover even very large working areas. Besides, the cable length can be continuously adapted to specific applications via the cable wedge, while the cable clamp additionally allows users to adjust the working range to individual needs. Potential overload of the cable mount is reliably prevented by the integrated cable extension limit stop. The cable drum is equipped with multiple ball bearings for easy operation and a long life.

Needless to say, the 7251 model features a freely rotatable and swiveling suspension. To minimize wear, the suspension hook can be optimally adjusted to its center of gravity.

Conclusion:

The perfect solution that excels with absolute precision and safety, even when working with very heavy loads.



Type 7251 Heavy-Duty Zero Gravity Balancer

Design

Suspension:	Safety hook, freely rotatable and swiveling; positionable
Housing:	High-strength, sand-cast aluminum
Housing cover:	High-strength, sand-cast aluminum
Cable drum:	High-strength, sand-cast aluminum
Cable:	High-strength steel cable with elastic cable stop buffer and screw-type spring hook for load suspension. The cable is continuously adjustable in length via a cable wedge. The lift or working range can be continuously adjusted (reduced) in addition via a cable clamp.
Spring:	High-strength special suspension spring, encapsulated and riveted
Type of bearing:	Ball bearings, closed on both sides
Special feature:	Longer cable available on request.

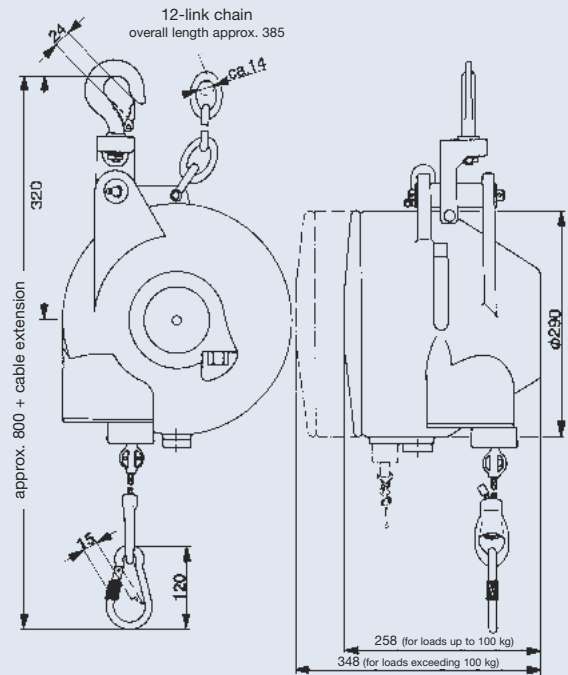
Safety features:

- ▶ Tested for safety ("GS" label)
- ▶ Very rigid and highly impact-resistant aluminum housing
- ▶ Safety hook, freely rotatable and swiveling
- ▶ Overload protection due to cable extension limit stop
- ▶ Screw-type spring hook for load suspension
- ▶ Safety expansion chain as standard fall protection device
- ▶ Spring fracture safeguard as standard feature for all load ranges
- ▶ Integrated drum lock
- ▶ Ferrule for securing cable end (included in normal delivery)
- ▶ Freewheel device for protection against handling errors



Working ranges:

Cable extension:	3.0 m
Cable stop buffer:	continuously adjustable



ID No.	Load Range (kg)	Cable Travel (m)	Dead Weight (kg)
7251 0800 01	15.0 - 25.0	3.0	25.0
7251 0800 02	25.0 - 35.0	3.0	26.0
7251 0800 03	35.0 - 50.0	3.0	27.0
7251 0800 04	50.0 - 65.0	3.0	28.0
7251 0800 05	65.0 - 80.0	3.0	29.0
7251 0800 06	80.0 - 90.0	3.0	30.0
7251 0800 07	90.0 - 100.0	3.0	32.0
7251 0800 08	100.0 - 115.0	3.0	41.8
7251 0800 09	115.0 - 130.0	3.0	43.2
7251 0800 10	130.0 - 140.0	3.0	44.6
7251 0800 11	140.0 - 150.0	3.0	46.0
7251 0800 12	150.0 - 170.0	3.0	46.4
7251 0800 13	170.0 - 180.0	3.0	46.7
7251 0800 14	180.0 - 190.0	3.0	47.0
7251 0800 15	190.0 - 200.0	3.0	47.3

Type 7261 Heavy-Duty Zero Gravity Balancer

With a load-carrying capacity of up to 300 kg, the 7261 model is the “champion” of our range of heavy-duty and ultra-heavy-duty zero gravity balancers. In fact, this type series is unrivaled all over the world in terms of load capacity. Being an advanced version of the 7251, this model similarly combines high operational safety and durability with perfectly easy and safe servicing as a result of continuous and systematic implementation of relevant safety requirements.

Due to its extremely rugged design, this model is bound to function reliably and with supreme durability even under the toughest operating conditions. The integrated safety functions protect users reliably against injuries and help to prevent costly production losses.

The operating ranges are optimally structured as a result of practical experience gained over many years. Thanks to the modular design and the fully encapsulated suspension spring, it is possible to change the load range quickly by simply exchanging the spring cassette. Load adjustment is done conveniently via a continuously adjustable endless screw. What’s more, the patented freewheel device integrated as standard prevents inadvertent wrong operation during load setting.

With a cable travel of 1.5 m, this balancer provides ample range to cover even large working areas. Besides, the cable length can be continuously adapted to specific applications via the cable wedge, while the cable clamp included as standard allows users to adjust the lift or working range to individual needs. Potential overload of the cable mount is reliably prevented by the integrated cable extension limit stop. The cable drum and the deflection pulley are fitted with multiple ball bearings for ease of operation and a long life.

The 7261 model comes with swivel-type suspension. To minimize wear, the suspension hook can be optimally adjusted to its center of gravity.

Conclusion:

The unrivaled solution at the highest level for ultra-heavy-duty applications.



Type 7261 Heavy-Duty Zero Gravity Balancer

Design:

- Suspension: Swivel-type safety hook, positionable
- Housing: High-strength, sand-cast aluminum
- Housing cover: High-strength, sand-cast aluminum
- Cable drum: High-strength, sand-cast aluminum
- Cable: High-strength steel cable with elastic cable stop buffer and screw-type spring hook for load suspension. The cable is continuously adjustable in length via a cable wedge. The lift or working range can be continuously adjusted (reduced) in addition via a cable clamp.
- Spring: High-strength special suspension spring, encapsulated and riveted
- Type of bearing: Ball bearings, closed on both sides
- Special feature: Longer cable available on request.

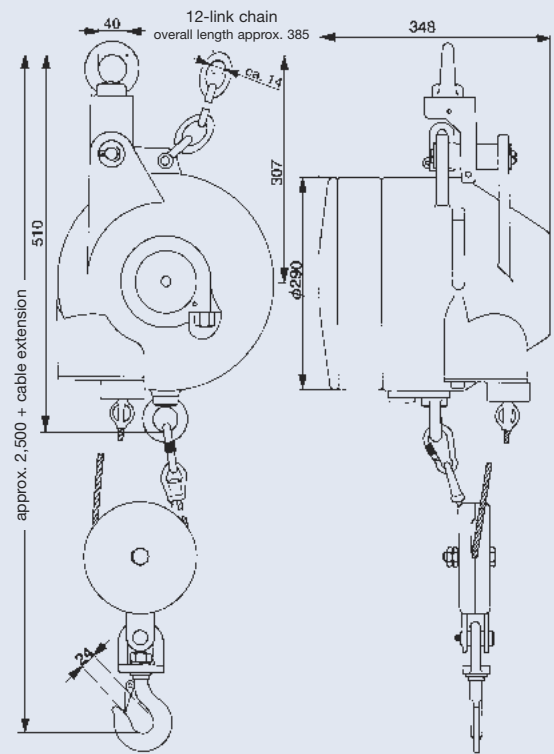
Safety features:

- ▶ Tested for safety ("GS" label)
- ▶ Very rigid and highly impact-resistant aluminum housing
- ▶ Swivel-type safety hook
- ▶ Overload protection due to cable extension limit stop
- ▶ Screw-type spring hook for load suspension
- ▶ Safety expansion chain as standard fall protection device
- ▶ Spring fracture safeguard as standard feature for all load ranges
- ▶ Integrated drum lock
- ▶ Ferrule for securing cable end (included in normal delivery)
- ▶ Freewheel device for protection against handling errors



Working ranges:

- Cable extension: 1.5 m
- Cable stop buffer: continuously adjustable



ID No.	Load Range (kg)	Cable Travel (m)	Dead Weight (kg)
7261 0800 01	150.0 - 175.0	1.5	46.0
7261 0800 02	175.0 - 200.0	1.5	47.5
7261 0800 03	200.0 - 225.0	1.5	49.0
7261 0800 04	225.0 - 250.0	1.5	51.0
7261 0800 05	250.0 - 275.0	1.5	53.0
7261 0800 06	275.0 - 300.0	1.5	55.0



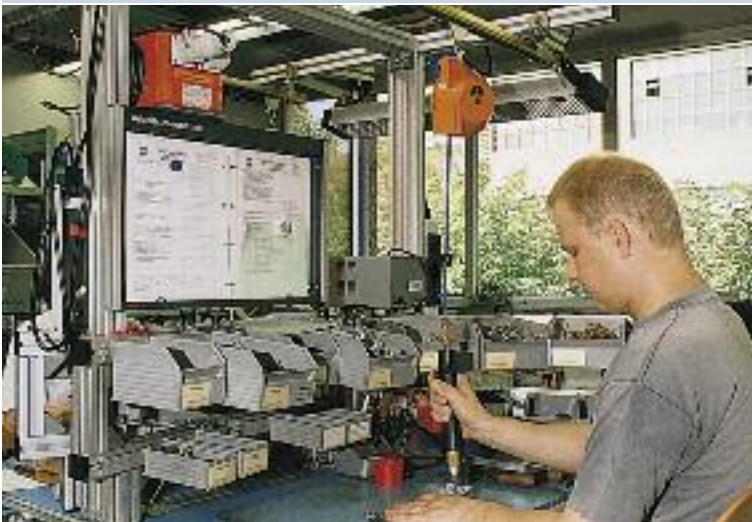
Type 7223 Air Hose Balancer

Instead of a steel cable, the 7223 model offers a hose for supplying pneumatically operated tools with compressed air. The lift or working range of 800 mm is ergonomically adapted to the special requirements of such tools. This not only saves you precious space, but time-consuming installation and maintenance work as well.

The special design and sturdy air hose of this retractor offer users an air supply of 900 l/min at 6 bar. With a maximum operating pressure of 10 bar, this balancer perfectly meets all requirements encountered in daily practice.

Once again, the fact that all parts of the balancer – such as the suspension spring – can be replaced in this model with great ease guarantees a high level of user satisfaction and a long life.

Besides, this air hose balancer comes with a safety chain as a standard fall protection device even in its smallest version (load capacity of just 0.4–1.2 kg) – safety features that make a significant contribution to occupational safety.



Type 7223 Air Hose Balancer

Design:

Suspension:	Rotary screw-type spring hook
Housing:	Impact- and abrasion-resistant plastic, reddish orange
Housing cover:	Sheet steel, varnished
Cable drum:	High-strength, abrasion-resistant plastic
Hose:	High-strength and sturdy (damage-resistant) air hose, inner width 5 mm, with Cejn quick-action coupling. Rotary coupling for air supply to tool: R 1/4". The lift or working range can be continuously adjusted (reduced).
Spring:	High-strength, riveted special suspension spring
Special feature:	Longer air hose available on request.

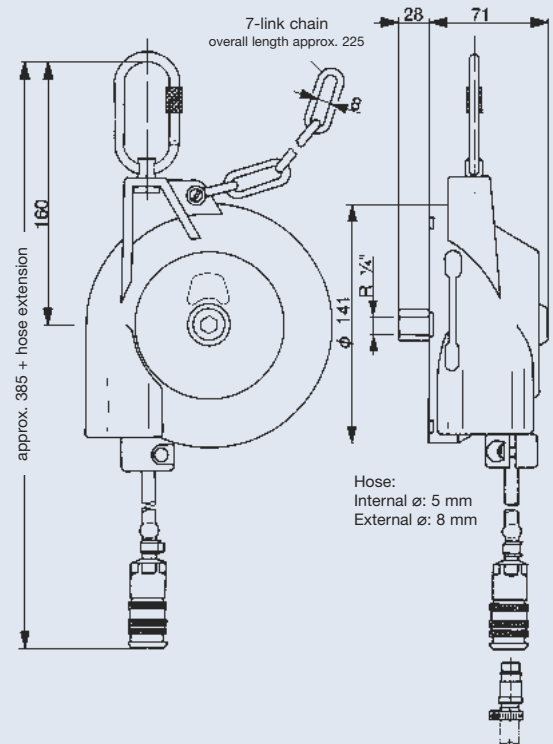
Safety features:

- ▶ Tested for safety ("GS" label)
- ▶ Very rigid and highly impact-resistant housing
- ▶ Screw-type safety hook, rotatable and swiveling, as insulated suspension
- ▶ Safety chain as standard fall protection feature
- ▶ Extremely abrasion-resistant air hose



Working ranges:

Hose extension:	0.8 m
Hose stop buffer:	continuously adjustable
Max. operating pressure:	10 bar
Air flow rate:	900 l / min at 6 bar



ID No.	Load Range (kg)	Hose Travel (m)	Dead Weight (kg)
7223 0000 01	0.4 - 1.2	0.8	1.2
7223 0000 02	1.2 - 2.2	0.8	1.3
7223 0000 03	2.2 - 3.0	0.8	1.4



Types 7211 and 7212 Light-Duty Air Hose Balancers with Spiral Hose Optionally with Ratchet Lock

The AIR 7211 type series is fully identical with the 7211 standard series, except that this special version comes with an additional spiral hose for compressed air supply. As a result, the AIR 7211 retractor series is just perfectly suited also for supporting pneumatically operated tools requiring a large extension range. The spiral hose is designed and mounted so that the entire extension range of 2.5 m can be easily used without any restriction. Besides, the AIR 7212 model offers a ratchet lock allowing the retracting cable to be automatically locked in a predetermined position.

The spiral hose is available in two versions: 9x13 and 11x16. All other features remain unchanged relative to the 7211 type series.

Conclusion:

The optimized solution for pneumatically operated small tools of all kinds.



Types 7211 and 7212
Light-Duty Air Hose Balancers with Spiral Hose
 Optionally with Ratchet Lock

Design:

Hose versions: 9x13 and 11x16

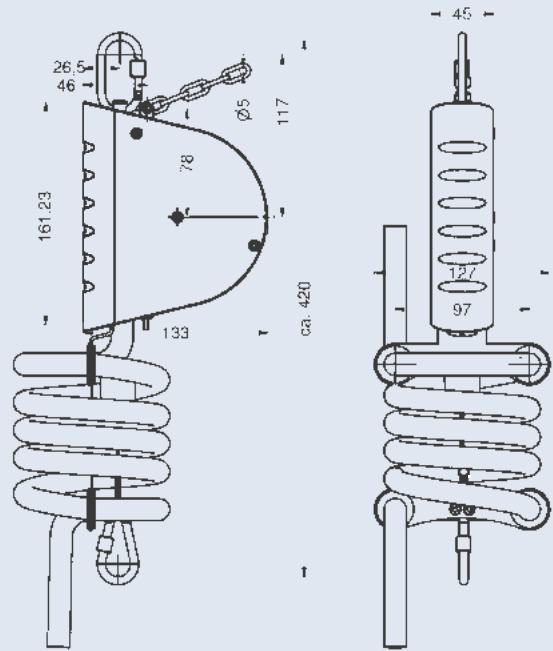
Safety features:

- ▶ Tested for safety ("GS" label)
- ▶ Fully assembled unit
- ▶ Rigid housing
- ▶ Insulated suspension
- ▶ Safety chain as standard feature



Working ranges:

Cable extension: 2.5 m
 Cable stop buffer: continuously adjustable



Hose version: 9 x 13

ID No. w/o Ratchet Lock	ID No. with Ratchet Lock	Dead Weight w/o Ratchet Lock (kg)	Dead Weight with Ratchet Lock (kg)	Load Range (kg)	Cable Travel (m)
7211 0801 01	7212 0801 01	1.3	1.4	0.5 - 2.0	2.5
7211 0801 02	7212 0801 02	1.3	1.4	1.5 - 3.0	2.5

Hose version: 11 x 16

ID No. w/o Ratchet Lock	ID No. with Ratchet Lock	Dead Weight w/o Ratchet Lock (kg)	Dead Weight with Ratchet Lock (kg)	Load Range (kg)	Cable Travel (m)
7211 0801 11	7212 0801 11	1.9	2.0	0.5 - 2.0	2.5
7211 0801 12	7212 0801 12	1.9	2.0	1.5 - 3.0	2.5



Types 7221 and 7222 Medium-Duty Air Hose Balancers with Spiral Hose Optionally with Ratchet Lock

The AIR 7221 type series is fully identical with the 7221 standard series, except that this special version features an additional spiral hose for compressed air supply. As a result, the AIR 7221 retractor series is perfectly suited also for supporting pneumatically operated tools requiring a very large extension range. The spiral hose is designed and mounted so that the entire extension range of 3.0 m can be easily used without any restriction. Besides, the AIR 7222 model offers a ratchet lock allowing the retracting cable to be automatically locked in a predetermined position.

The spiral hose is available in two versions: 9x13 and 11x16. All other features remain unchanged relative to the 7221 type series.

Conclusion:

A reliable retractor designed for continuous duty, supporting safe and precise working in all fields of application where pneumatic tools are used.



Types 7221 and 7222
Medium-Duty Air Hose Balancers with Spiral Hose
Optionally with Ratchet Lock

Design:

Hose versions: 9x13 and 11x16

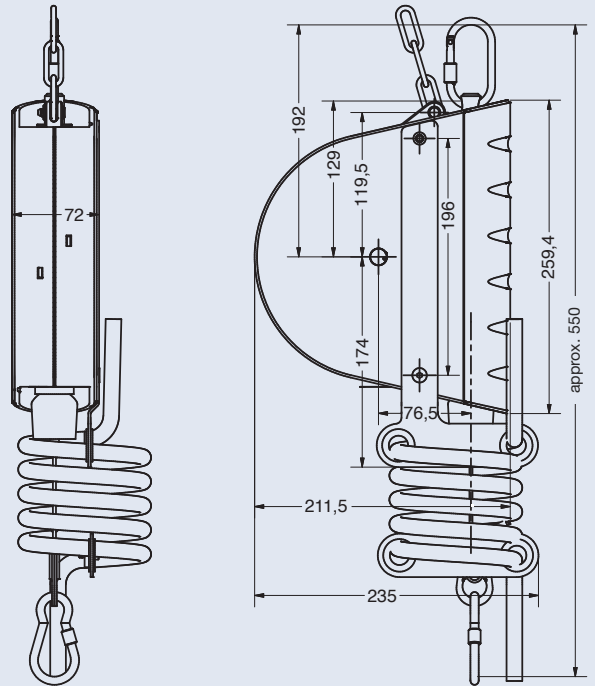
Safety features:

- ▶ Tested for safety ("GS" label)
- ▶ Fully assembled unit
- ▶ Rigid housing
- ▶ Insulated suspension
- ▶ Safety chain as standard feature



Working ranges:

Cable extension: 3.0 m
 Cable stop buffer: continuously adjustable



Hose version: 9 x 13

ID No. w/o Ratchet Lock	ID No. with Ratchet Lock	Dead Weight w/o Ratchet Lock (kg)	Dead Weight with Ratchet Lock (kg)	Load Range (kg)	Cable Travel (m)
7221 0801 01	7222 0801 01	3.9	4.0	2.0 - 5.0	3.0
7221 0801 02	7222 0801 02	4.2	4.4	4.0 - 8.0	3.0
7221 0801 03	7222 0801 03	4.2	4.4	7.0 - 10.0	3.0
7221 0801 04	7222 0801 04	4.4	4.5	10.0 - 14.0	3.0

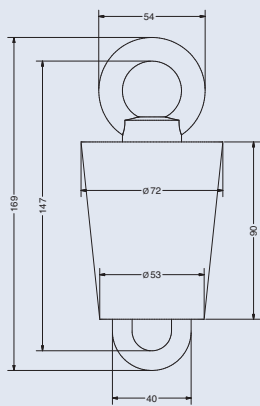
Hose version: 11 x 16

ID No. w/o Ratchet Lock	ID No. with Ratchet Lock	Dead Weight w/o Ratchet Lock (kg)	Dead Weight with Ratchet Lock (kg)	Load Range (kg)	Cable Travel (m)
7221 0801 11	7222 0801 11	4.2	4.3	2.0 - 5.0	3.0
7221 0801 12	7222 0801 12	4.6	4.7	4.0 - 8.0	3.0
7221 0801 13	7222 0801 13	4.6	4.7	7.0 - 10.0	3.0
7221 0801 14	7222 0801 14	4.8	4.9	10.0 - 14.0	3.0



Insulated Twist Stop

When using our larger balancers in conjunction with electrical tools such as welding tongs, insulated load suspension is frequently required. Carl Stahl Kromer supports you with a combined solution for such applications – one that ensures load insulation for up to 1,000 volts and also includes a ball-bearing twist stop for significantly increased cable life where rotational motions are involved.



Model	Twist Stop No.
7235 / 7236	007.415 001
7241	007.415 001
7251	007.415 001

Cables with Integrated Twist Stop

The use of a twist stop is indispensable for applications where the cable is affected by rotational motions and resulting torsional forces. Carl Stahl Kromer offers special cables incorporating a smooth-running twist stop that reliably takes up and neutralizes any torsional forces.



Model	Cable with integrated twist stop
7211 / 7212	007.335 311
7221 / 7222	007.335 298
7228	007.335 206
7230 / 7231	007.335 204
7235 / 7236	007.335 203
7241	007.335 301
7248	standard feature
7251	007.335 302
7261	standard feature

Stainless Steel Cables

In some fields of application, the use of stainless steel cables is mandatory. Apart from coastal, maritime and chemical applications, this also includes the food industry. Using genuine Carl Stahl stainless steel cables not only ensures compliance with this requirement, but also assures that the very high standards embodied in our balancers are extended to these fields as well.



Model	Cable No.
7200	007.335 296
7211 / 7212	007.335 295
7221 / 7222	007.335 299
7228	007.335 134
7230 / 7231	007.335 135
7235 / 7236	007.335 191
7241	007.335 136
7251	007.335 137
7261	007.335 300

Aluminum Ferrules

ID No.	Cable Ø (mm)
T201.60.42	2.0
P500.00.30	3.0
P500.00.40	4.0
P500.00.50	5.0



Hand Crimping Tools for mechanically pressing aluminum ferrules in place

ID No.	Cable Ø (mm)	Length (mm)	Weight (kg)
5090.00.40	1.0	625	2.5
5090.00.41	1.5	625	2.5
5090.00.42	2.0	625	2.5
5090.00.43	2.5	625	2.5
5090.00.44	3.0	625	2.5
5090.00.45	3.5	625	2.5
5090.00.46	4.0	1000	8
5090.00.47	4.5	1000	8
5090.00.48	5	1000	8
5090.00.49	6	1000	8

Spare Dies

ID No.	Cable Ø (mm)
5090.01.40	1.0
5090.01.41	1.5
5090.01.42	2.0
5090.01.43	2.5
5090.01.44	3.0
5090.01.45	3.5
5090.01.46	4.0
5090.01.47	4.5
5090.01.48	5
5090.01.49	6



Wire Rope & Cable Shears

The material is dissected with a clean cut, no squeezing or crushing. The forged light-metal handles are plastic-covered. Intended use: cutting of steel wire ropes, wires of all kinds and wire mesh.



Model C7

Model C9

Model C12

Model C16

ID No.	Type	Hose version 9 x 13		Length (cm)	Weight (kg)
		Steel wire cables 1,700 N/mm ²	Electr. cables with steel core (aluminum or copper)		
5090.00.20	C7	-	-	19	0.270
5090.00.30	C9	7	9	32.5	0.750
5090.00.31	C12	8	12	50	1.500
5090.00.32	C16	14	16	63	2.300

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please refer to our website: www.federzug.com**

Training for qualification as a “Competent Person” authorized to check spring balancers and zero gravity balancers

Seminar contents:

- ▶ DIN 15112
- ▶ Planning workplace use of balancers, selecting the appropriate model and determining the settings required for optimum balancer performance
- ▶ Proper use of spring and zero gravity balancers
- ▶ Correct installation of spring and zero gravity balancers
- ▶ Monitoring the proper functioning of spring and zero gravity balancers
- ▶ Maintenance service to prevent accidents at work and costly production losses
- ▶ Practical exercises on spring balancers (“retractors”)
- ▶ Practical exercises on zero gravity balancers

Seminar objectives:

The workshop is designed to enable participants to assess the operational safety of spring balancers and zero gravity balancers, recognize and remove potential problems during use, and carry out the required annual repeat checks.

Target group:

- Foremen, assistant foremen and users
- Departmental employees
- Maintenance departments
- Plant planners
- Occupational safety specialists

The training package includes:

- 1-day technical seminar
- Carl Stahl Kromer training CD
- 1 lunch
- Beverages during breaks



About Us

1917

Design and development of spring balancers and zero gravity balancers of the former “MM” class, with a load capacity of up to 60 kg. Due to the production techniques available at the time, the designs were limited to using only solid castings or sheet steel parts.

1924

Extension of the zero gravity balancer line in the upper load range to a maximum load capacity of 136 kg. For spring balancers, the range was 0.5 to 5 kg. First use of a spring fracture safeguard mechanism.

1956

Modernization of the production facilities for the Kromer zero gravity balancers. This speeded up the manufacturing process by up to 20%.

1966

First use of a Kromer balancer in the medical-technical field (compensating the weight of heavy loads on X-ray machines).

1972–1976

Complete revision and modernization of all Kromer spring balancers and zero gravity balancers. Thanks to the use of advanced plastics, the weight of these products could be reduced by more than 60% in some cases.

1982

Design and construction of a balancer as a customized special solution with a load capacity of more than 460 kg.

1996

Patent application for a globally unique high-safety double-cable balancer (type 7248) that uses a second cable to carry the load if one cable breaks, thus reliably preventing it from crashing down, no additional external devices needed.

1997

Launch of the high-safety double-cable balancer type 7248.

1998

Redesign of the spring fracture safeguard for types 7240, 7250 and 7260, changing over to a path-dependent system that is automatically replaced as well when replacing the spring. As a result of this measure, the type numbers were changed to 7241, 7251 and 7261. Conversion kits were made available to ensure the long-term availability of spare parts for existing products.

2002

New development of the Kromer spring balancer series 5200.

2003

New development of the Kromer zero gravity balancers type 7235/7236 with load ranges between 15 and 55 kg and a cable travel of 2.0 m.

2007

Revision of the load setting mechanism for the Kromer balancer type 7228. The external clamping spring was replaced with a locking system (shaft) that prevents wrong operation.

2008

Patent application for a suspension spring protection device that effectively prevents operating errors when replacing the spring.

A product comparison test conducted by the Esslingen University of Applied Sciences clearly showed that Kromer balancers are unrivaled on a global scale (see pages 4/5).

2009

Complete redesign of the spring balancers with load capacities of up to 14 kg and a lift or cable travel of 3.0 m. The clamping spring previously used for load setting was eliminated across the entire product range and completely replaced with locking systems or worm gears.





Carl Stahl Kromer GmbH
Walter-Knoell-Strasse 3
D-79115 Freiburg

Tel.: +49 (0)7 61 120 22-0
Fax: +49 (0)7 61 120 22-22
Email: freiburg@carlstahl.com